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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,067	01/22/2002	Hellen Chaya Greenblatt	CV0110A	6138

7590 11/26/2003

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EXAMINER	
HINES, JANA A	

ART UNIT	PAPER NUMBER
1645	7

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,067	GREENBLATT ET AL.	
	Examiner	Art Unit	
	Ja-Na Hines	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Amendment Entry

1. The amendment filed September 8, 2003 has been entered. Claims 1-2 have been cancelled. Claims 3 and 5-8 have been amended. Claims 3-13 have been newly added. Claims are under consideration in this office action.

Withdrawal of Rejections

2. The following rejections have been withdrawn in view of applicants' amendments:

a) The written description and enablement rejections of claims 1-8 under 35 U.S.C. 112, first paragraph; and
b) the rejection of claims 1-8 under 35 U.S.C. 112, second paragraph.

New Grounds for Rejection

Claim Objections

Claim 4 is objected to because of the following informalities: The claim misspells *Salmonella enteriditis*, it should be "*enteritidis*" . Please also correct page 44 of the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. Claim 4 recites the limitation "the immunogenic vaccine" in the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 3, 6 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams et al., (US Patent 5,601,823). Williams et al., teach methods and compositions for treating humans and other animals intoxicated with at least one Clostridial toxin, where the antitoxin is produced in an avian species (abstract). The gram-positive spore-forming bacteria, *Clostridium difficile* and *botulinum* produce toxins that cause diarrheal diseases (col.3 lines 30-35, col. 5 lines 37-39 and col. 5-6 lines 65-10). The Illness range from diarrhea alone to marked diarrhea and necrosis of the gastrointestinal mucosa forming pseudomembranous enterocolitis (col. 5-6 lines 65-3). Williams et al., teach "..obtaining antibodies against Clostridium species, their toxins, enzymes or other metabolic by-products, cell wall components, or synthetic or recombinant versions of any of these compounds"(col. 8 lines 60-65). To obtain antibodies, a non-mammal from the class Aves is used, which includes duck, ostrich, emu, turkey, chickens and hens (col. 9 lines 64-66). When chickens are used, the antibody will be obtained from the egg, because laying hens transport immunoglobulin

to the egg yolk, and because a large volume of egg yolk can be safely obtained over any given period of time (col. 10 lines 12-18). Further, antibody obtained from an egg is purer, more homogeneous and contains only one class of immunoglobulin (col. 10 lines 19-22). To increase the effectiveness of the antibodies the polyethylene glycol (PEG) separation was used to exploit the differential solubility of lipids that are abundant in egg yolk (col. 11 lines 6-14). The technique yields an immunoglobulin fraction that is significantly purer in terms of contaminating non-immunoglobulin proteins when compared to other methods and this method is safe for use in passive immunizations of intoxicated humans and animals (col. 11 lines 17-24). All modes of immunization are useable in this method, including subcutaneous, intramuscular, intraperitoneal, intravenous injection and oral administration of the immunogen (col. 10 lines 33-38). Animals tested included hamsters that were infected with *C. difficile* as a consequence of antibiotic treatment (col. 18 lines 52-60). Oral administration of antibody in a pharmaceutically acceptable carrier was taught (col. 22 lines 59-65). Example 1 teaches the preparation of bacterial immunogens and immunization of the hens. Example 2(b) recites the treatment of infected animals with the equivalent of 1 gram immune antibody whereby the animal where observed for the onset of diarrhea or other disease associated symptoms. Table 2 shows that one group of animals that received the egg product did not develop diarrhea and remained healthy.

Therefore, Williams et al., teach a method for treating and preventing diarrheal symptoms in a subject animal comprising hyperimmunizing an egg-producing animal, collecting the egg or egg product, which includes the immune globulin as an egg

product, administering the product to the animal wherein the animal is free from infection from the immunogen just as the instant application claims.

5. Claims 3-4 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Stolle et al., (US Patent 4,748,018). Stolle et al., (US Patent 4,748,018) teach a method for passively immunizing a mammal with heterologous antibody obtained from an immunized domesticated fowl (col.1 lines 10-13). The method teaches feeding the mammal a material having an enhanced antibody titer against an antigen obtained from the egg of fowl immunized against the antigen and administering to the mammal an immunologically effective amount of antibody (col. 3 lines 50-65). This method is applicable to human beings also (col. 4 lines 66-68). Any antigen or combination of antigens can be employed, where the antigen can be bacterial, viral, cellular or any other substance to which the immune system of the fowl will respond (col. 5 lines 1-5). Suitable antigens can include *Pseudomonas aeruginosa, Strep pyogenes, Strep mutans, Escherichia coli, Salmonella typhimurium, Salmonella enteritidis* along with a wide variety of other known antigens (col. 5 lines 10-35 and Example 1). Modes of administration include oral, parenteral injections such as intravenous, intraperitoneal or intramuscular (col. 6 lines 40-45). Oral administration can also be effectively used to treat disease of the mouth and gastrointestinal tract (col. 6 lines 45-46).

Accordingly, Stolle et al., teach hyperimmunizing an egg-producing animal, collecting the egg or egg product, which includes the immune globulin as an egg

product, administering the product to the animal wherein the animal is free from infection from the immunogen just as the instant application claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 5 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Williams et al., (US Patent 5,601,823) in view of Weiner et al., (US Patent 5,593,972). Williams et al., (US Patent 5,601,823), has been discussed above, it does not recite the use of at least one immunogen encoded DNA construct. Weiner et al., teach the use of genetic material as immunizing agents (col.1 lines 14-17). The genetic material encodes an immunogenic peptide or protein that is administered to elicit an immune response (col. 8 lines 17-28). The resulting immune response elicited is broad based, in addition to having a humoral immune response both arms of the cellular immune response are elicited (col. 8 lines 28-32). DNA or RNA can encode a target protein and the DNA or RNA can be linked to regulatory elements (col.9 lines 53-60). The genetic construct of genetic vaccines comprise nucleotide sequences and the genetic vaccine with its DNA or RNA molecule encode a target protein and can elicit an immune response that can protect the individual (col. 10 lines 24-28, 52-60). DNA may be introduced into cells where it remains as separate genetic material in the form of a

plasmid or linear DNA (col. 10-11 lines 63-1). DNA constructs include both DNA and RNA molecules; example 1 teaches viral DNA.

Accordingly, it would have been prima facie obvious at the time of applicants invention to modify the immunogens of Williams et al., wherein at least one immunogen-coding DNA construct is selected. One would have a reasonable expectation of success since Weiner et al., teach that the use of genetic material as an immunogen, results in the immune response eliciting a broad based response. Moreover, no more than routine skill would have been required to incorporate the separate genetic material that is known in the art to have protective abilities.

7. Claims 6-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al., (US Patent 5,601,823) and Weiner et al., in view of Emery et al., (US Patent 5,420,253). Williams et al., (US Patent 5,601,823) and Weiner et al., have been discussed above, however neither recite a specific range with respect to the effective amount to be administered. Emery et al., teach a method for separating immunoglobulins from the yolk of an egg (col.2 lines 5-7). There are well known techniques to use an egg laying bird which is immunized with an antigen to stimulate production of immunoglobulins (col. 3 lines 61-65). Antigens may be pathogenic gram negative or gram-positive bacteria, toxins, allergens, hormones and any other product (col. 3-4 lines 66-2). Examples of antigens include *Strepococcus species, Escherichia coli, Salmonella species, Pseudomona species,* and *Haemophilus species.* Modes of administration include oral and parenterally such as intravenously, intramuscularly, subcutaneously, respiratory or aerosolization (col. 9 lines 14-16). The concentration of

the product provided is about .25-20 grams/kg per day where the doses will depend upon the type of animal, size and the like (col.9 lines 25-32).

It is well within the level of skill in the art to adjust dosage of the egg product in order to optimize experimental parameters in order to achieve the result taught in the prior art.

Accordingly, it would have been prima facie obvious at the time of applicants invention to have adjusted the range amount of egg product administered as taught by Emery et al., in the method of Williams et al., and Weiner et al. No more than routine skill is required in adjusting the amount of a component of the claimed process in order to achieve results already taught in the prior art. Moreover, Emery teaches a range of administration and recites that the amount will be dependent upon the size of the animal just as the instant claims, therefore on skilled in the art is provided the motivation to adjust the amount of egg or egg product used within the method.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ja-Na Hines whose telephone number is 703-305-0487. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith can be reached on 703-308-3909. The fax phone number for the organization where this application or proceeding is assigned is 703-308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Ja-Na Hines
November 18, 2003

LYNETTE R. F. SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600